

Summer 2020 Outlook Winter 2020-21 Preview

Mark O'Malley

National Weather Service

Phoenix, AZ

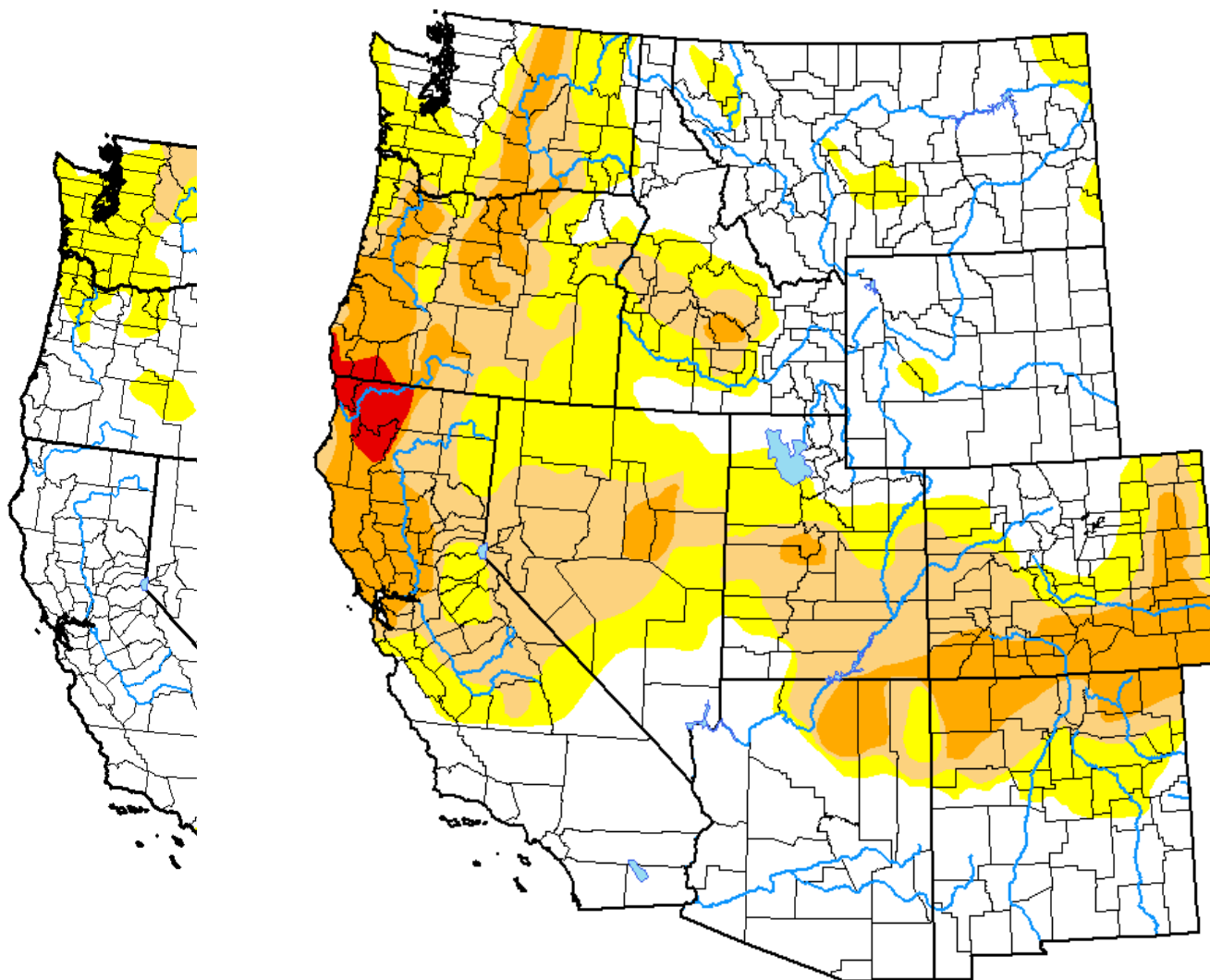
www.weather.gov/phoenix



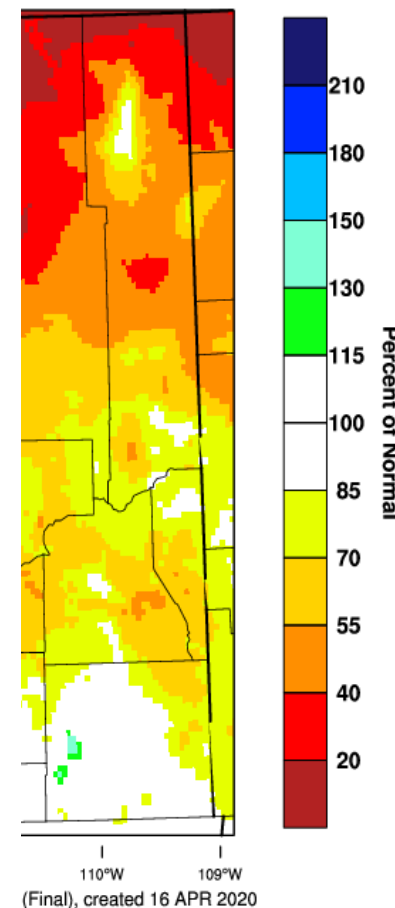


SW Antecedent Drought

April 28, 2020



010 Normal

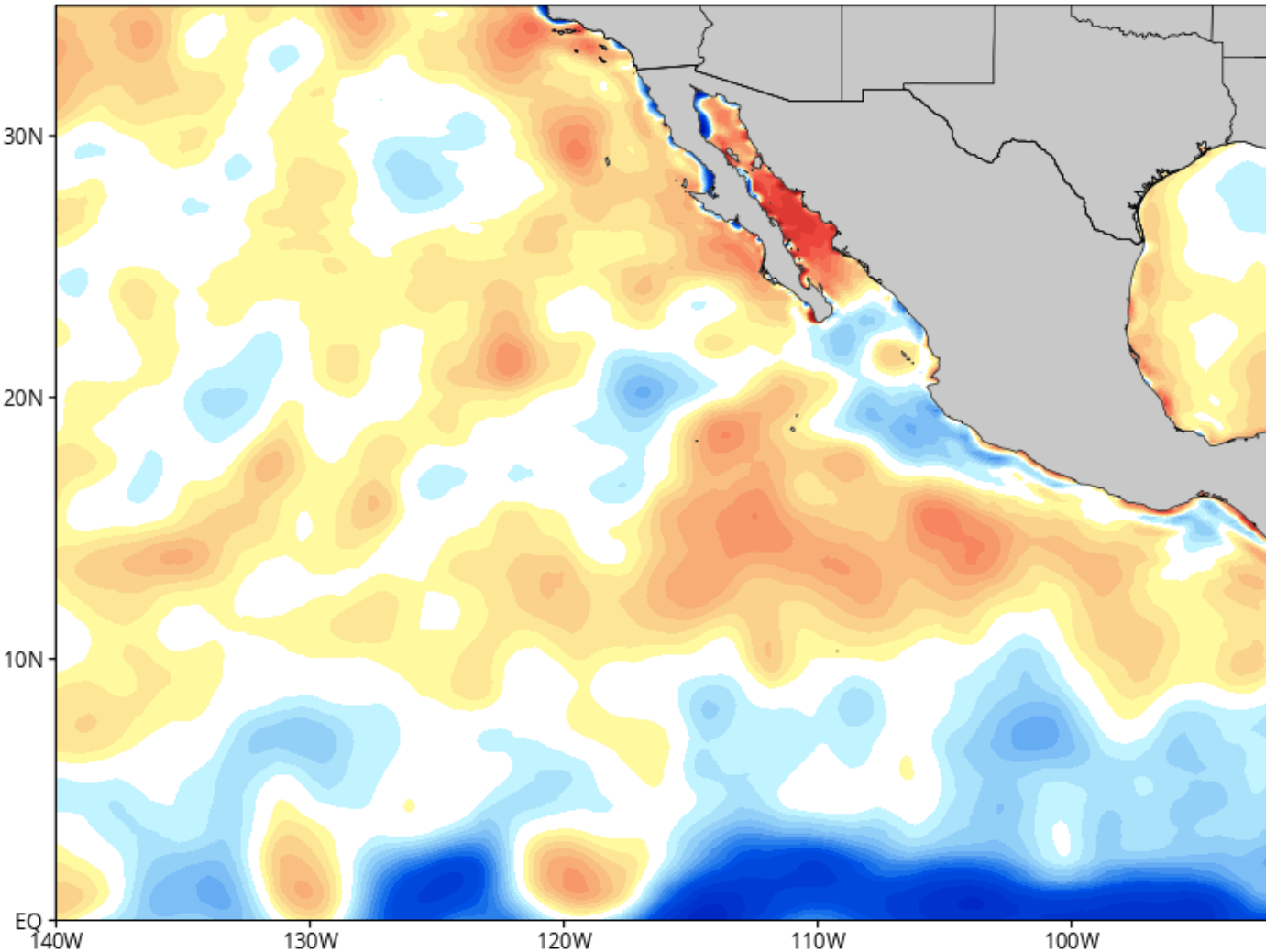




Recent Ocean Temperatures

CDAS Sea Surface Temperature Anomaly ($^{\circ}\text{C}$) (based on CFSR 1981-2010 Climatology)

Analysis Time: 12z Jun 21 2020



Mix of warmer than average sea surface temperatures (SST) and cooler than average SSTs ($1-3^{\circ}\text{C}$)

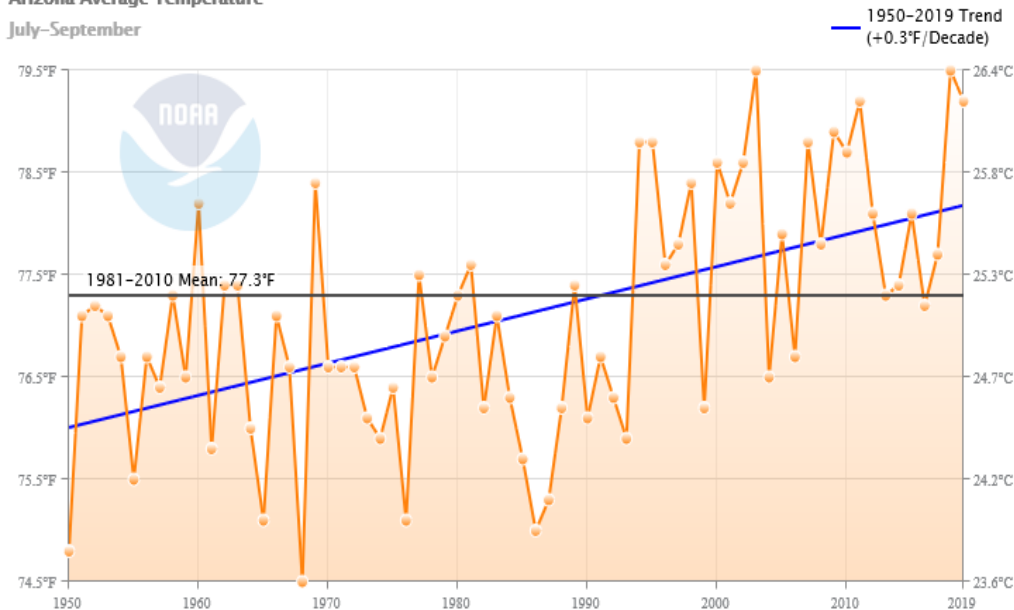
Cooler SST's last year potentially hindered better moisture transport

Conceivably could support more moisture surges into southern Arizona though trend towards cooling SST's may negate this affect



Outlook: Jul/Aug/Sep 2020

Arizona Average Temperature
July–September



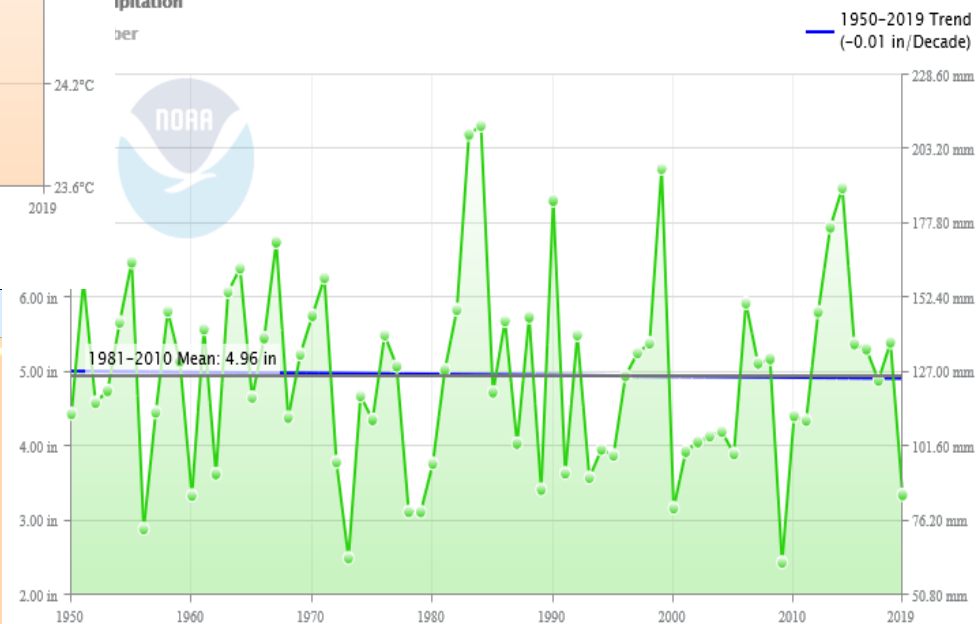
Three-month averages

**Shading indicates chances
of above or below normal**

**Strongly favoring above
normal temperatures**

**No tilt in odds regarding
precipitation outcome**

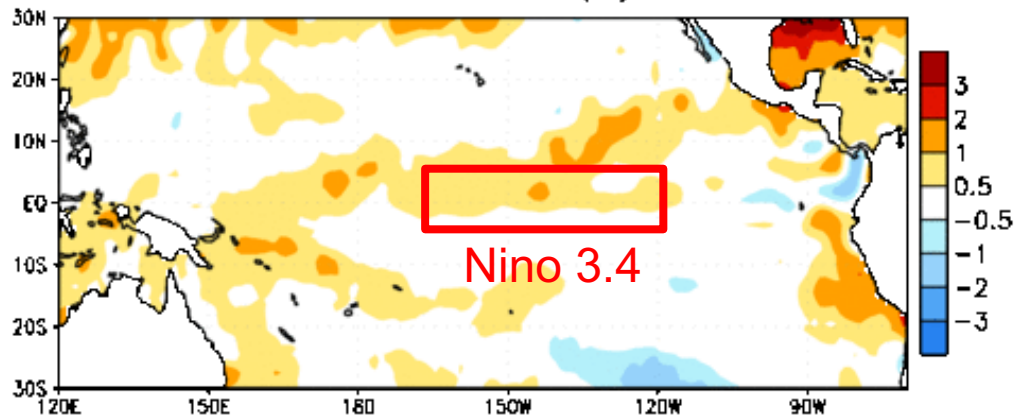
Precipitation
per



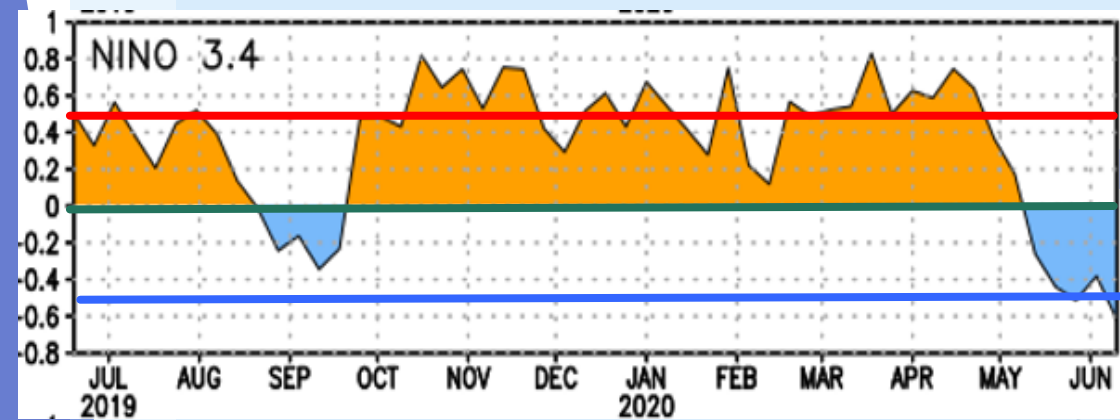


Conditions in Tropical Pacific

Week centered on 25 MAR 2020
SST Anomalies ($^{\circ}\text{C}$)



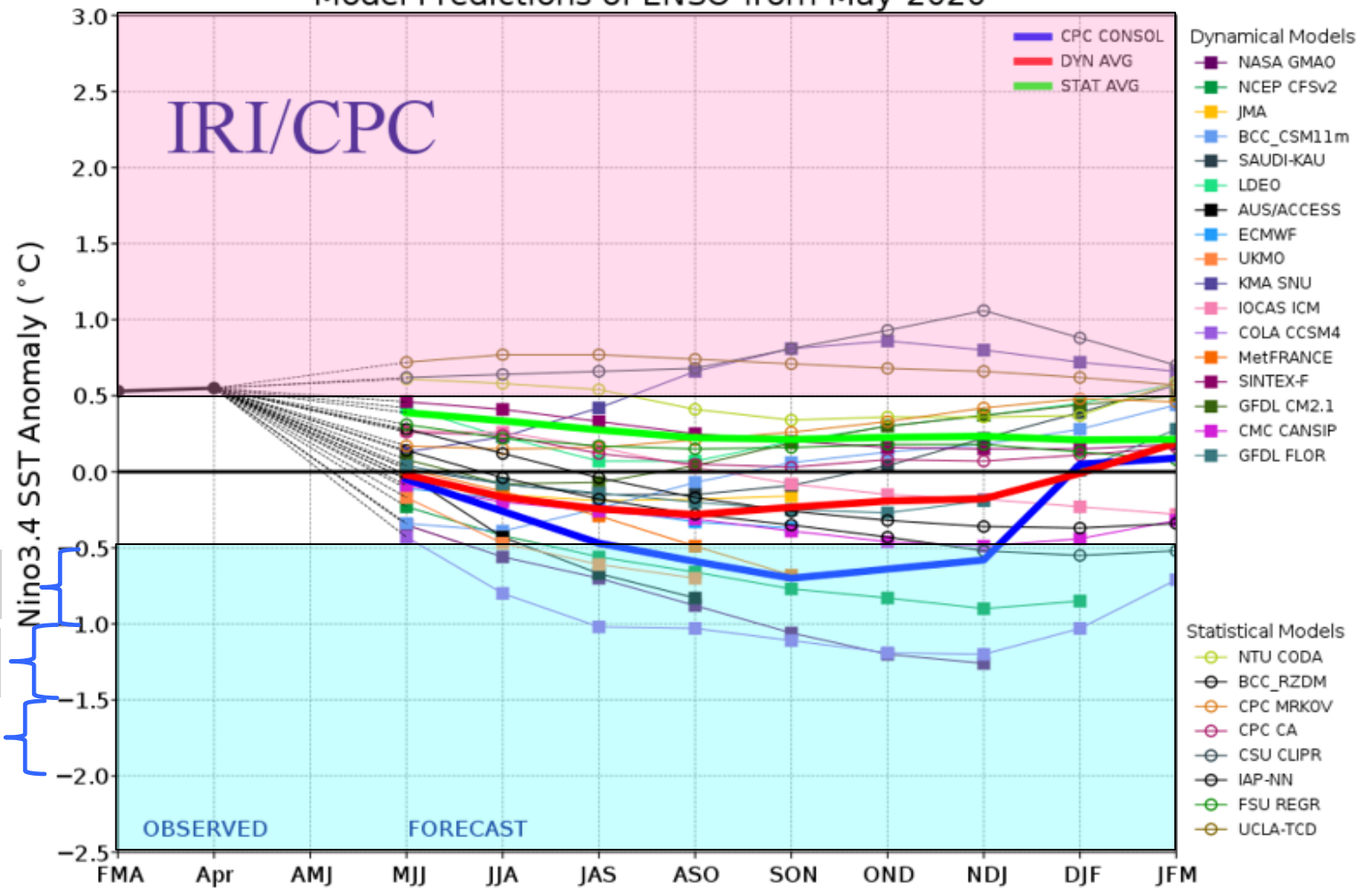
- ▶ Equatorial Pacific waters have mostly been warmer than normal for a couple years now
- ▶ Water temperatures flirted with El Niño thresholds last winter, but the atmospheric circulation patterns did not hold an El Niño pattern
- ▶ Waters have been cooling abruptly in the tropical Pacific recently
- ▶ This may be the onset of a La Niña phase maturing later in the year





El Nino/La Nina Outlook

Model Predictions of ENSO from May 2020



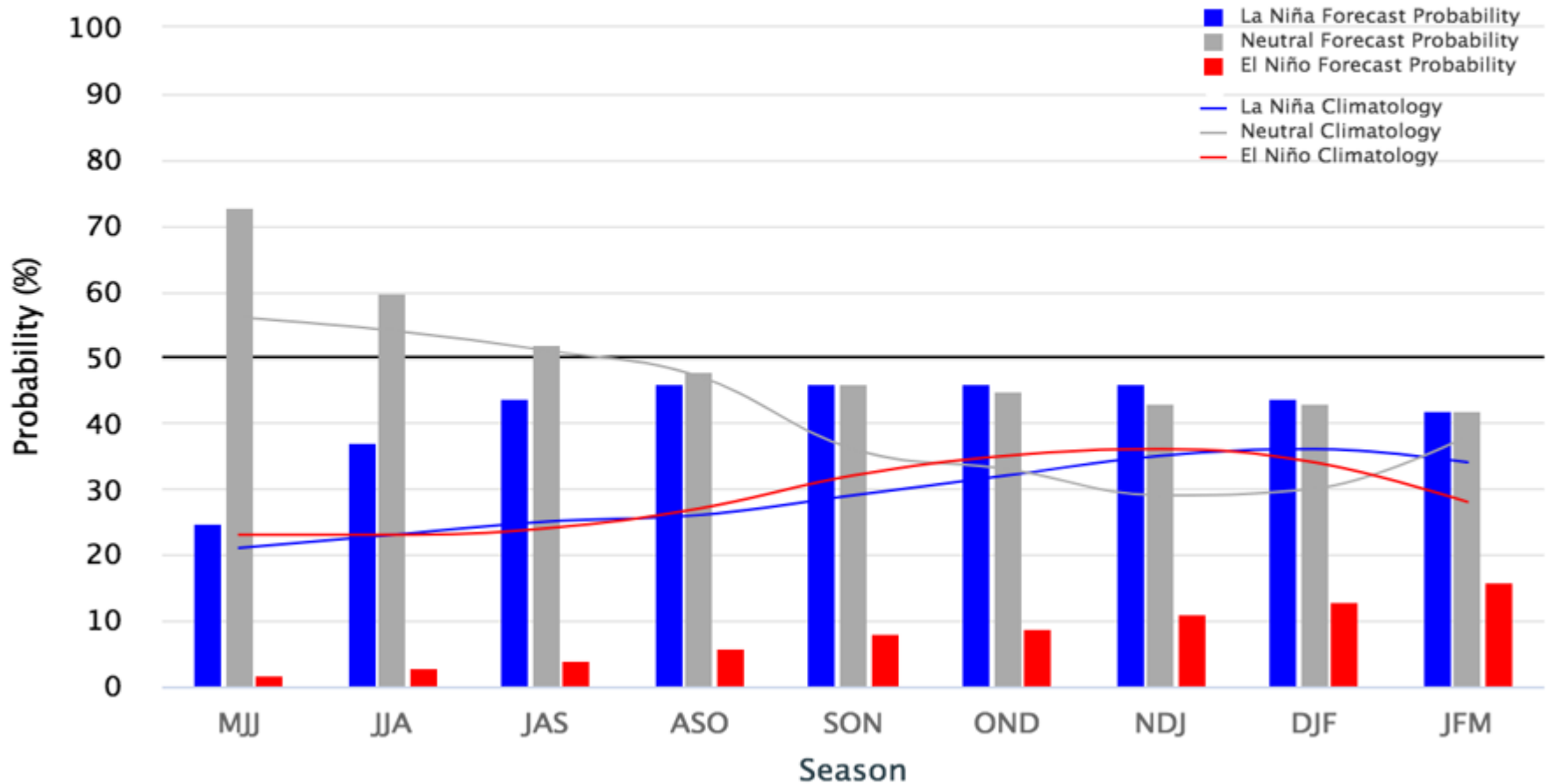


El Nino/La Nina Outlook – June 2020

Early-June 2020 CPC/IRI Official Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly

Neutral ENSO: -0.5°C to 0.5°C

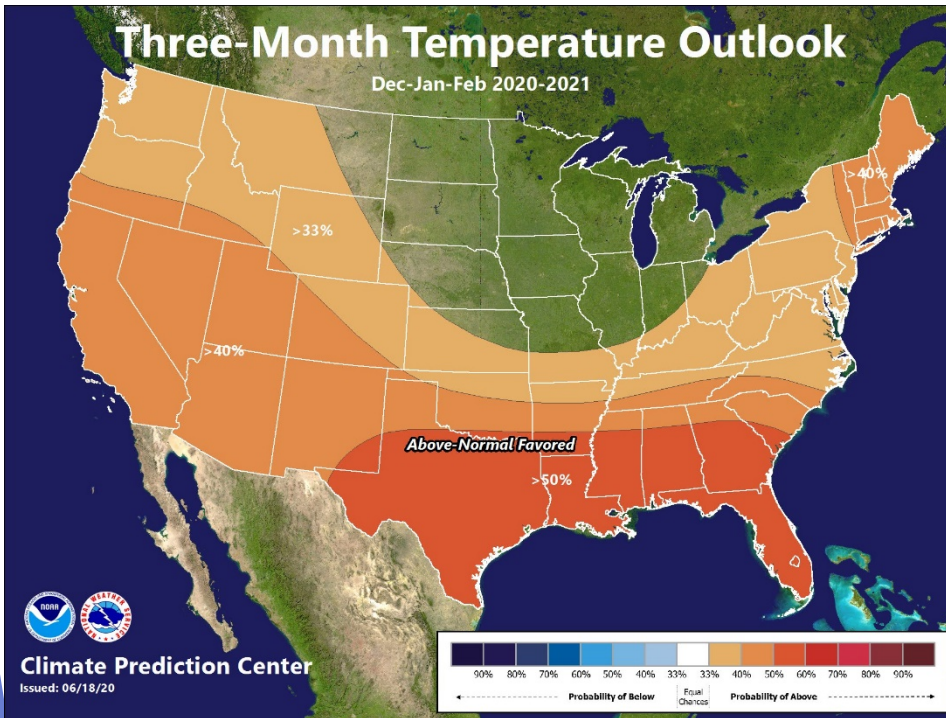




Outlook: Dec/Jan/Feb 2020-21

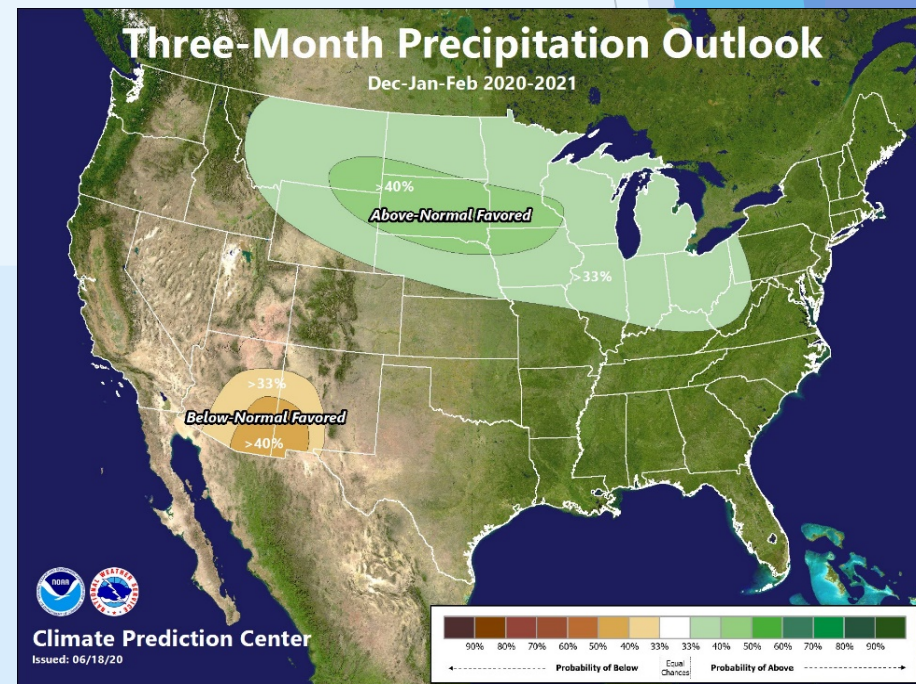
Three-month averages

Shading indicates chances of above or below normal



Better odds for above normal temperatures

Slight tilt towards drier precipitation outcome





Summary

- Odds point strongly to a warmer than average summer
- Very little tilt in summer rainfall odds exist given varying signals and randomness of monsoon storms
- Possibility of La Nina developing by late summer and lingering throughout the winter
- Should La Nina become the predominant seasonal oscillation, drier weather would become more favored in the fall and winter



Questions?

Telephone: 602-275-0073

Home page: www.weather.gov/phoenix

Facebook: www.facebook.com/NWSPhoenix

Twitter: www.twitter.com/NWSPhoenix

E-mail: mark.omalley@noaa.gov